WHAT IS CLAIMED IS:

1. A swirling type micro-bubble generating system, comprising a container main unit having a cylindrical space with bottom, a pressure liquid inlet opened in tangential direction on a part of circumferential surface of inner wall of said space, a gas introducing hole opened at the bottom of the cylindrical space, and a swirling gas-liquid mixture outlet opened at the top of said cylindrical space.

2. A swirling type micro-bubble generating system, comprising a container main unit having a megaphone-like space with inlet closed, a pressure liquid inlet opened in tangential direction on a part of circumferential surface of inner wall of said space, a gas introducing hole opened on an opening of said megaphone-like space, and a swirling gas-liquid mixture outlet opened at the top of said megaphone-like space.

3. A swirling type micro-bubble generating system according to claim 1 or 2, wherein a plurality of pressure liquid inlets opened in tangential direction on a part of circumferential surface of inner wall of the space are provided with spacings on circumference of inner wall of the space.

4. A swirling type micro-bubble generating

system according to claim 1 or 2 ~~one of claims 1 to 3~~, wherein the pressure liquid introducing hole is opened on a part of circumferential surface of inner wall near the top of said space.

5. A swirling type micro-bubble generating system according to claim 1 or 2 ~~one of claims 1 to 4~~, wherein the pressure liquid inlet is opened on a part of circumferential surface of inner wall near middle portion of said space.

6. A swirling type micro-bubble generating system according to claim 1 or 2 ~~one of claims 1 to 5~~, wherein a baffle plate is arranged immediately before the swirling gas-liquid mixture outlet opened at the top of the cylindrical space.

7. A swirling type micro-bubble generating system according to claim 1 or 2 ~~one of claims 1 to 5~~, wherein a partition plate for closing the outlet is attached, leaving only a partial opening, immediately before the swirling gas-liquid mixture outlet opened at the top of the cylindrical space.

8. A method for swirling type micro-bubble generation, using a micro-bubble generating system, which comprises a container main unit having a cylindrical space with bottom, a pressure liquid inlet opened in tangential direction on a part of

circumferential surface of inner wall of the space, a gas introducing hole opened at the bottom of the cylindrical space, and a swirling gas-liquid mixture outlet opened at the top of the cylindrical space, whereby said method comprises:

a first step of forming a swirling gas cavity for swirling and quiding self-sucked gas while extending and narrowing down the gas flow in the cylindrical space; and

a second step of generating micro-bubbles by forcibly cutting off and smashing the swirling gas cavity due to difference of swirling velocity between the portions in the swirling gas cavity.

9. A method for swirling type micro-bubble generation, using a micro-bubble generating system, which comprises a container main unit having a cylindrical space with bottom, a pressure liquid inlet opened in tangential direction on a part of circumferential surface of inner wall of the space, a gas introducing hole opened at the bottom of the cylindrical space, and a swirling gas-liquid mixture outlet opened at the top of the cylindrical space, whereby said method comprises:

a first step of forming a swirling gas cavity for swirling and quiding self-sucked gas while extending

and narrowing down the gas flow in the cylindrical space; and

a second step of generating micro-bubbles by forcibly cutting off and smashing the swirling gas cavity due to difference of swirling velocity between the portions in the swirling gas cavity;

a third step of continuously cutting off and smashing the swirling gas cavity in said cylindrical space due to relative increase of the difference in rotating velocity between the rotating cut-off portion and smashing portion in the second step, the liquid passing through the rotating cut-off portion is rapidly expanded in conical shape while rotating (where the fluid not containing micro-bubbles is filled in the rotating fluid expanding in conical shape), the rotating fluid expanding in conical shape is stably formed, and expanding angle of conical shape is large (about 90° ), and rotating difference of rotating velocity is relatively increased between the rotating cur-off portion and the smashing portion in the second step.